

**Amendments to the Claims:**

*This listing of claims will replace all prior versions, and listings, of claims in the application:*

**Listing of Claims:**

1 – 21. (Canceled).

22. (Previously Presented) A method of removing residue from a substrate processing chamber, said method comprising the steps of:

forming a plasma remotely with respect to said chamber, said plasma including a plurality of reactive radicals;

forming a flow of said reactive radicals traversing toward said chamber;

forming a nonplasma diluent gas flow, wherein said nonplasma diluent gas flow comprises at least one of an inert gas or a reduction gas;

mixing said flow of said reactive radicals and said diluent gas flow at a mixing location downstream of a location of forming said flow of said reactive radicals and anterior to said chamber to form a gas-radical mixture; and

flowing said gas-radical mixture into said chamber.

23. (Previously Presented) The method as recited in claim 22 wherein said flow of reactive radicals and said gas flow are established to maintain a pressure within said chamber below one torr.

24. (Previously Presented) The method as recited in claim 22 wherein said reactive radicals comprise atoms associated with a reactive gas, with said reactive gas being selected from a group consisting of NF<sub>3</sub>, dilute F<sub>2</sub>, CF<sub>4</sub>, C<sub>2</sub>F<sub>6</sub>, C<sub>3</sub>F<sub>8</sub>, SF<sub>6</sub>, and ClF<sub>3</sub>.

25. - 26. (Canceled).

27. (Previously Presented) The method as recited in claim 22 wherein said chamber has components therein, with a subset of said radicals in said gas-radical mixture reacting with said components creating a residue and further including the step of exhausting said residue, with a rate at which said residue is exhausted depending upon a rate of said diluent gas flow.

28. (Previously Presented) The method as recited in claim 22 wherein said diluent gas flow travels at a first rate and said flow of said reactive radicals travel at a second rate with a ratio of said first rate to said second rate being at least 2:1.